

## CLAIMS

1. External door handle, especially for motor vehicles,
  - with a stationary bracket (10) attached to the door (11);
  - with a grip (20), supported pivotably on the bracket (10);
  - with a lock mounted in the door (11), which can be switched between a locked and an unlocked position;
  - where an actuation (24) of the grip (20) to open the door (11) is nonfunctional in the locked position but functional in the unlocked position; and
  - with at least one capacitative electronic sensor circuit (28, 38), which has an outer electrode active in the outside area of the external door handle;
  - where the active surface (37) of this electrode senses the approach of or contact by an authorized person and therefore is called the sensor surface (37); and
  - where the authorized person carries with him an active or passive identification means for access authorization and/or driving authorization for the vehicle;characterized in that

-- at least two additional, inner electrodes of the capacitative electronic sensor circuit (28, 38) are provided in the interior area of the external door handle,

-- between which an electrical coupling field (50.1) is built up at least in the rest position, i.e., while grip (20) remains unactuated;

-- where the active surface of the one electrode builds up the electrical coupling field (50.1) and is therefore called the exciter electrode (35);

-- whereas the active surface of the other inner electrode is electrically connected (34) to the outward-acting sensor surface (37) and is called the transfer surface (36) for the coupling field (50.1).

2. External door handle according to Claim 1, characterized in that at a layer (52) of electrically conductive paint is applied to the exterior surfaces (53) and/or to the interior surfaces of the external door handle, at least in certain defined areas, and

-- in that this paint layer (52) produces the electrode of the sensor surface (57), of the transfer surface, and/or of the exciter surface.

3. External door handle according to Claim 1 or Claim 2, characterized in that an electrically conductive layer of elastic material is applied to the outside surfaces and/or to the inside surfaces of the external door handle, at least in certain defined areas, and

-- in that this layer produces the electrode of the sensor surface, of the transfer surface, and/or of the exciter surface.

4. External door handle according to one or more of Claims 1-3, characterized in that the external door handle has several separate, outward-acting sensor surfaces (67, 47) and/or inward-acting transfer surfaces (56, 46) and/or exciter surfaces (59, 45), and in that these separate sensor surfaces (67, 47), upon contact by or approach of the authorized person, trigger different functions in the lock or in other devices in the vehicle.

5. External door handle according to Claim 4, characterized in that one of the sensor surfaces (67) serves to unlock the lock, whereas another (47) serves to lock the lock.

6. External door handle according to Claim 4 or Claim 5, characterized in that at least one of the sensor surfaces, upon approach of or contact by the authorized person, triggers a movement of movable parts in the vehicle in the opening and/or

in the closing direction.

7. External door handle according to Claim 6, characterized in that the sensor surfaces cause the movable parts to move in the opening direction upon contact by or approach of the authorized person and then in the closing direction upon the next approach or contact.

8. External door handle according to Claim 6 or Claim 7, characterized in that the movable parts are one or more windows, a sliding roof, a rear hatch, and/or one or more doors of the vehicle.

9. External door handle according to one or more of Claims 1-8, characterized in that one or more of the outward-acting sensor surfaces (37, 67) are seated on the grip (20).

10. External door handle according to one or more of Claims 1-9, characterized in that one or more of the sensor surfaces (27, 47, 57) are seated on a cover part (25), which is mounted in the external door handle next to the grip (20).

11. External door handle according to one or more of Claims 1-10, characterized in that at least some of the electronic components of the capacitative sensor which serve to lock and/or to unlock the lock and/or to move the movable parts in the vehicle are integrated into the grip or into the interior

of the grip of the external door handle.

12. External door handle according to one or more of Claims 1-10, characterized in that at least some of the electronic components (28, 38) of the capacitative sensor (electronic sensor circuits 28, 38), which serve to lock and/or to unlock the lock and/or to move the movable components in the vehicle, are mounted either directly or indirectly (30) on the bracket (11).

13. External door handle according to Claim 12, characterized in that the electronic sensor circuits (28, 38) are in a housing unit (30), which is seated on the bracket (11).

14. External door handle according to Claim 13, characterized in that the housing unit (30) is prefabricated and can be attached to the inward-facing (26) of the bracket (11).

15. External door handle according to Claim 12 or Claim 13, characterized in that the housing unit (30) is prefabricated and is attached in the area of a barrel (17) mounted on the bracket,

-- where the barrel (17) is mounted in the bracket (11) next to the grip (20).

16. External door handle according to one of Claims 12-15, characterized in that the housing unit (30) consists of a main

housing (31) and a projecting housing finger (32); and in that

-- the end (33) of the finger extends into the outside area (25) of the external door handle and is provided there with the sensor surface (27) for triggering the locking of the lock.

17. External door handle according to Claim 16, characterized in that the electronic sensor circuit (28, 38) is integrated into the main housing (31) of the housing unit (30),

-- whereas the housing finger (32) can be inserted through an opening (39) in the bracket (11) and a hole in the outer housing skin (30) of the door.

18. External door handle according to Claim 16 or Claim 17, characterized in that the housing unit (30) can be installed on the inward-facing (26) of the bracket (11) mounted in the door and/or removed from it afterwards from the interior (11) of the door.

19. External door handle according to one or more of Claims 1-18, characterized in that the grip consists of a pull-type grip (20), which is supported at one end (21) on the bracket (11), whereas its other end (22) has an arm (23), which cooperates with the lock; and in that

-- the housing finger (32) is located next to the arm (23).

20. External door handle according to Claim 19, characterized in that the transfer surface (36) for the electrical coupling field (50.1) is on the inner end of the arm (23) of the grip (20).

21. External door handle according to Claim 19 or Claim 20, characterized in that the exciter surface (35) for the electrical coupling field (50.1) is located in the housing unit (30), which is seated on the inward-facing (26) of the bracket (11).

22. External door handle according to Claim 21, characterized in that the exciter surface (35) is integrated into the finger (32) of the housing unit (30), and in that

-- when the grip is in the rest position (20), the finger (32) follows the course of the profile of the arm (23).

23. External door handle according to one of Claims 1-22, characterized in that the sensor surface (67) of the electrode acting in the outside area, the one inner electrode with its transfer surface (56), and the electrical conductor (60) which connects them to each other are all designed as a single part.

24. External door handle according to Claim 23, characterized in that the one-piece component comprising the sensor surface (67), the transfer surface (56), and the

conductor (60) is mounted in the grip (20) and/or in the cover part (25).

25. External door handle according to Claim 24, characterized in that at least part of the one-piece component (67, 60, 56) passes through the arm (23) of the grip (20), which is designed as a pull-type grip.